NDIE OGIOCHUKWU
17/17HS02/055
NURSING SCIENCE

1a Given (M/z)Y = 105

Maximum carbon atom = 105/12 = 8.75 ≈ 9

Since the mass per charge ratio is odd, it is possible for nitrogen to be present in the compound C_xH_yN then taking the carbon atoms to be 7

H = 105 − (8 + 14)

= 7

Compound 1 → C_7H_7N

IND = (2 × 7) + 2 − 7 + ½

= 5//

Removing 4 atoms of hydrogen and one atom of oxygen (C_8H_3NO)

IND = (2 × 7) + 2 − 3 + ½

= 7

b Organic compounds are important because all living organisms contain carbon.

c

Homocyclic Compounds	Heterocyclic compounds
They contain only on type of atom including itself	They contain at least different types of atom.

2ai Distance moved by substance / Distance moved by solvent points = 2.4 / 12.2

= 0.20//

ii Distance moved by substance / Distance moved by solvent points = 3.6 / 12.2

= 0.6//

iii Distance moved by substance / Distance moved by solvent points = 8.9 / 12.2

= 0.7//

b A : Aldehyde (alkanal)
B : Unsaturated hydrocarbon
C : Aldehydes & Ketones.

3 RX - alkyl halides → CH_3Cl, CH_3CH_2Br
RCOOR - ester → $CH_3CH_2COOCH_3$, $CH_3CH_2CH_2COOCH_3$
ROH - Alkanol → CH_3OH, CH_3CH_2OH
RCHO - Alkanal → CH_3CHO, CH_3CH_2CHO
RCOOH - Alkanoic acid → CH_3COOH, CH_3CH_2COOH
$R-NH_2$ - Amides → CH_3NH_2, $CH_3CH_2NH_2$
RCOX - Acidic halides → CH_3COCl, CH_3CH_2OBr
$RCONH_2$ - Amides → CH_3CONH_2, $CH_3CH_2CONH_2$